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Development of a Torsion Balance Experiment to Investigate Gravitation at the Sub-Millimeter Range ADAM ARCHIBALD, MIKE ABERCROMBIE, TSITSI NOUSINOV, KASEY WAGONER, RAMANATH COWSIK, Washington University In Saint Louis — This talk will discuss our efforts to investigate possible violations of the inverse-square law of gravity at ranges below 1 cm. An instrument of novel design, sensitive to such violations, has been constructed and being operated in the basement of Rudolph Hall, Washington University in Saint Louis. We will discuss the main design features and calibration of the instrument to assess its sensitivity. We will provide the first results from our study of possible violations for a range of several millimeters. We conclude with a discussion of prospects for the future.

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